What is Claimed:

1. A hydrocracking process which comprises contacting a feed stream comprising hydrocarbons having boiling points between about 340°C and about 540°C with a catalyst comprising a hydrogenation component and beta zeolite, which beta zeolite has been treated to increase its selectivity to the production of middle distillate products and which beta zeolite is further characterized by a unit cell size parameter "c" value of 26.10 to 26.20 and a positive amount less than 17 percent of total aluminum as tetrahedral aluminum as determined by NMR.

2. The process of claim 1 further characterized in that the beta zeolite has a Brönsted pyridine adsorption value at 150°C of less than about 0.05 Au/mg.

3. The process of Claim 1 wherein the beta zeolite has a Brönsted pyridine adsorption value at 300°C less than about 0.02 Au/mg.

4. The process of Claim 1 further limited in that the percentage of tetrahedral aluminum in the beta zeolite structure is between 10 and 15 percent.

5. The process of claim 4 further characterized in that the beta zeolite has a Brönsted 150 °C acidity value of 0.02 to 0.05 and a Lewis 150°C acidity value of 0.04 to 0.08.

6. The process of claim 4 further characterized in that the catalyst contains a positive amount less than 15 wt % beta zeolite and at least 25 wt % silica alumina.

7. The process of claim 6 further characterized in that the catalyst contains at least 25 wt % alumina.

8. A hydrocracking process which comprises contacting a feed stream comprising hydrocarbons having boiling points between about 340°C and about 540°C with a catalyst comprising silica-alumina and beta zeolite as an active cracking components, which beta zeolite has been treated by

steaming at temperatures between about 750 and 925°C and which beta zeolite is further characterized by a unit cell size parameter "c" value of 26.10 to 26.20, the beta zeolite having between 10 to 15 percent tetrahedral aluminum by NMR and an acidity distribution characterized by Brönsted pyridine IR adsorption values of less than 0.05 mg/cc at 150°C and less than 0.02 mg/cc at 300°C.

9. The process of claim 8 further characterized in that the Brönsted pyridine IR adsorption value of the beta zeolite is reduced by at least 90% during the treatment by steaming at a temperature between 750 and 925°C.

10. The process of claim 8 further characterized in that the beta zeolite has a Brönsted pyridine adsorption value at 300°C of less than 0.02 Au/mg.

11. The process of claim 8 further characterized in that the beta zeolite has a Brönsted pyridine adsorption value at 450°C of less than 0.005 Au/mg and a Lewis pyridine adsorption value at 150°C of 0.04 to 0.08 Au/mg.

12. The process of claim 8 further characterized in that the catalyst contains less than 15 wt % beta zeolite and at least 40 wt % silica alumina.

13. The process of claim 12 further characterized in that the catalyst contains at least 35 wt % alumina.

14. The process of claim 13 further characterized in that the Brönsted pyridine IR adsorption value of the beta zeolite at 450°C is less than 0.005 Au/mg and less than 2% of the value of the corresponding untreated beta zeolite.

15. A hydrocracking process which comprises contacting a feed stream comprising hydrocarbons having boiling points between about 340°C and about 540°C with a catalyst comprising at least 40 wt % silica-alumina and from 0.5 to about 20 wt % beta zeolite as an active cracking components, which beta zeolite has been treated by steaming at temperatures between about 750 and 925°C and which beta zeolite is further characterized by a unit

cell size parameter "c" value of 26.10 to 26.20, the beta zeolite having between 1 to 15 percent tetrahedral aluminum by NMR and an acidity distribution characterized by Brönsted pyridine IR adsorption values of less than 0.05 mg/cc at 150°C and less than 0.02 mg/cc at 300°C, a Brönsted pyridine IR adsorption value of at 450°C of less than 0.005 Au/mg and less than 2% of the value of the corresponding untreated beta zeolite.